Installing and Configuring LISTSERV Classic 15.5 on Windows 2000/2003/XP

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For changes to LISTSERV from version 15.0 to 15.5, please view the LISTSERV 15.5 release notes.

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1. Target audience: LISTSERV Classic users only

This installation guide is for LISTSERV Classic running under Windows 2000/2003/XP. LISTSERV Lite users should see the installation guide written specifically for LISTSERV Lite.

This installation guide makes the following assumptions:

1. You have a Windows 2000/2003/XP operating system installed and operating normally on a computer in your network that meets the various technical requirements listed later in this guide;

2. You have physical access to the machine in question and are logged in as Administrator, or at least as a member of the Administrators group with full control of the machine;
3. You can troubleshoot Windows 2000/2003/XP (ie native OS problems, not problems related to LISTSERV) without assistance from this guide or from L-Soft.

Number three is particularly important. L-Soft will be happy to assist you with LISTSERV-related problems arising under Windows 2000/2003/XP (assuming of course that you have purchased support for our product) but is unable to assist you in setting up your operating system, the Internet Information Service (or any other web server software available for the Windows 2000/2003/XP operating systems), or any aspect of your operating system that is not directly related to LISTSERV's operation. If you are not familiar with Windows 2000/2003/XP, please be aware that L-Soft cannot help you with either their installation or subsequent troubleshooting.

2. Technical requirements for running under Microsoft Windows

There are three classes of technical requirements for running LISTSERV under Windows 2000/2003/XP--hardware, software, and networking. Please read each section carefully.

2.1. Hardware requirements

1. *CPU Architecture.* LISTSERV will currently run under Windows 2000/2003/XP on Intel architectures, and will run under Windows 2000/2003/XP on AXP architectures, to the extent that the operating system itself continues to be supported on AXP architectures.
2. *Multiple Processors.* While LISTSERV itself will not use multiple processors (LISTSERV is a single-threaded application), overall machine performance may be enhanced by use of multiple processors if other applications running simutaneously on the machine can take advantage of them.
3. *Memory.* L-Soft recommends that a Windows 2000/2003/XP LISTSERV machine start out with a minimum of 256M, as this will minimize paging and can lead to a marked improvement in performance, particularly if the web archive/administration interface (see below) is implemented. In particular, LISTSERV servers running with the High Performance Option (HPO) require more memory than non-HPO servers and should therefore start out with at least 512MB.
4. *Disk Space Needed.* LISTSERV itself takes up very little space (perhaps 4MB total for all of its default system files). When planning a LISTSERV system you need to take into account how large your lists will be (100 bytes per subscriber entry in a given list) and how much space you will need for discussion list archives, which have the potential to grow quite large depending on your traffic and number of lists. For most small systems, a 4GB or larger drive is probably sufficient for some time. Larger systems will naturally require larger disks.
5. *Disk Architecture.* LISTSERV will run perfectly well for most sites on inexpensive EIDE disks of the modern sort (ATA-33 or ATA-66). If performance is an issue, it will be greatly enhanced by the use of fast SCSI disks in a RAID array with write-back caching and a write-back battery back-up. *Write-through caching is not recommended.* Usually it is best to divide a RAID array into at least two partitions: A boot partition of 3GB (effective 1.5GB) RAID 0+1, and a data partition making up the rest of the available disk space at RAID 5. If it is not feasible to divide the array in this manner, RAID 0+1 for the entire array is suggested. (The boot partition can be larger if desired -- particularly as very large disks are much more economical than in the past -- but we would still recommend that it be configured RAID 0+1).
6. *Disk Format and Security.* L-Soft *strongly recommends* that LISTSERV be installed on an NTFS-formatted partition. LISTSERV will run out of a FAT partition, but FAT does not provide the same level of security and performance available with NTFS.

General performance notes:

1. Please note carefully that L-Soft *STRONGLY DISCOURAGES* running LISTSERV out of a RAM disk in order to speed up I/O. This is not a supported configuration and if you have problems with it the support group's response will be to tell you to stop using the RAM disk.
2. Note that if system RAM is tight, either a fast disk or more RAM is a necessity if you are to minimize I/O time lost to paging. An otherwise fast system can become quite sluggish if it is required constantly to read and write to virtual memory. Adding more RAM is usually preferred as it is more efficient to access RAM than it is to access even a fast disk.

2.2. Software requirements

1. LISTSERV requires either:

   - Windows 2000. We have no specific service pack recommendation at this time; many sites are running with SP2 and reporting no problems.
   - Windows XP Professional. Service Pack 2 is supported.
   - Windows 2003 Server.

   LISTSERV is no longer supported under Windows NT 3.5x or Windows NT 4.0.

2. Either Internet Information Service (IIS) or some other WWW server (ie, Apache) should be installed on the machine if you intend to use the web archive and administration interface. It is not recommended (or supported) to attempt to install LISTSERV's web interface on a separate machine. If you install IIS on the LISTSERV machine you must disable or not install the IIS SMTP service -- or configure it to listen on a non-standard TCP port -- as otherwise it will conflict with LISTSERV. Note, however, that there is a documented and supported solution for using the IIS SMTP service for LISTSERV's outbound mail (see below).

3. INBOUND MAIL: The SMTP "listener" service (SMTPL.EXE) provided in the LISTSERV installation kit must be installed. Third-party SMTP MTAs (Mail Transfer Agents) are supported for inbound LISTSERV mail if they can be configured to redirect LISTSERV's mail to SMTPL running on a non-standard port (for instance, 40025). Examples of 3rd party MTAs that can be used for this purpose are MailEnable Standard Edition or the IIS SMTP service.

   Note: Sites with valid licenses for L-Soft's legacy LSMTP mailer may of course continue to use LSMTP for both inbound and outbound mail.

4. OUTBOUND MAIL: The SMTPL.EXE "listener" service *cannot* be used for outbound mail. You will need to have access to an SMTP MTA that can handle LISTSERV's outbound mail. This machine can be a unix machine running L-Soft's HDMail product or one of the standard unix MTAs (sendmail/qmail/postfix), a Windows machine running Microsoft Exchange or MailEnable Standard Edition, or any fully-standards-compliant SMTP server running on any platform, as long as it can handle the amount of traffic you will generate with LISTSERV.

   Low-end SMTP servers such as IIS SMTP and MailEnable Standard Edition can handle modest delivery loads (perhaps 10K-25K messages per hour, although we have seen a well-tuned IIS SMTP instance handle up to 75K per hour). For heavier delivery loads, L-Soft recommends a high-performance SMTP server such as HDMail, which can handle loads of more than 1 million messages per hour.

   If the outbound MTA is running on an external machine, that machine must be configured to accept for delivery so-called "relay mail" from the machine running LISTSERV (it may of course otherwise be configured to reject "relay mail" coming from other hosts).

If you need a "turnkey" single-machine solution for LISTSERV, a white paper describing how to use L-Soft's SMTPL.EXE "listener" for inbound mail and the Microsoft IIS SMTP service for outbound delivery can be found here: [Using the Microsoft IIS SMTP Service for LISTSERV Deliveries](#)

Also, a white paper describing how to configure MailEnable Standard Edition for use with LISTSERV and the SMTPL.EXE "listener" service is available upon request.

2.3. Networking requirements

1. TCP/IP connectivity, preferably 24/7, with enough bandwidth to handle your workload. Please note carefully that LISTSERV is not designed to dial up and access POP mailboxes. The proper installation and operation of LISTSERV is contingent on direct connection to the Internet in order for it to receive and send SMTP mail. If you do not understand this, L-Soft *strongly recommends* that you get expert technical advice before proceeding further, or consider using a hosting service instead of running LISTSERV yourself (for instance see http://www.lsoft.com/products/ease.asp for an overview of hosting services offered by L-Soft).

2. In conjunction with networking requirement #1, and as a fundamental requirement of the SMTP mail protocol, LISTSERV requires a static IP address which is mapped via a DNS A or MX record to a particular host name (typically LISTSERV.yourdomain, for example, LISTSERV.EXAMPLE.COM). If you are planning to use the web archive/administration interface with LISTSERV, an A record is required at minimum (web browsers cannot connect to hosts that have only an MX record). Please note carefully that L-Soft does not support LISTSERV servers running without DNS entries (ie we do not support servers configured with bracketed IP addresses instead of FQDNs [fully-qualified domain names, for example, LISTSERV.EXAMPLE.COM]).

   The use of a CNAME is STRONGLY DISCOURAGED because typically such hostnames are rewritten ("canonicalized") when mail sent from them traverses the Internet.

   Microsoft's WINS and MAPI protocols are not supported or used by LISTSERV.

   There are no guarantees that LISTSERV will work with a dynamically-assigned IP address (for instance, one obtained through DHCP), and a DNS entry is required if you expect people to be able to send mail to, and also--in many cases where the user's ISP does a reverse DNS lookup to validate that the mail is not spam--to *receive* mail from the server.

   Again, if you do not understand any part of this requirement, L-Soft *strongly recommends* that you get expert technical advice before proceeding further.

3. If installing LISTSERV behind a firewall with the expectation that users from the outside world will be able to access it, it is imperative that you provide access to the following TCP ports on the LISTSERV machine: Port 25 (SMTP) and port 80 (webserver, if the web archive/administration feature is enabled). It may also be necessary to provide access to port 53 (nameserver) if LISTSERV is unable to resolve the name of its outgoing mail host.

   If you are installing the legacy LSMTP MTA along with LISTSERV, you will also need to ensure that port 110 (POP3) is open if you intend to use the POP server component of LSMTP. If your DNS is not inside the firewall, port 53 (nameserver) will also have to be opened so that LSMTP can access external DNS servers. (It should be noted here that LSMTP *requires* access to a DNS server or it will not start up.)

   Installing LISTSERV behind a firewall is almost more of an art than a science (and every firewall seems to be different) but the bottom line is that the above ports must be open if you

expect LISTSERV to work. It is not recommended to route incoming LISTSERV mail through another machine (ie the firewall) as this normally leads to complications.

2.4. Windows NT 4.0 no longer supported

Starting with LISTSERV 14.3, L-Soft no longer supported Windows NT 4.0 as an application platform. Sites currently running earlier versions of LISTSERV under NT 4.0 (Intel) can upgrade to Windows 2000 or Windows 2003 without needing a new LAK. Sites running LISTSERV under the Alpha-AXP version of Windows NT 4.0 should contact their sales representative for information on migrating away from Windows NT 4.0 (Alpha-AXP).

3. Where to get the files

L-Soft provides its software via download only. The installation/evaluation kit for Windows 2000/2003/XP (Intel architecture only) are found at

http://www.lsoft.com/download/listserv.asp

The LISTSERV installation kit contains a complete implementation of LISTSERV for Windows 2000/2003/XP, limited for evaluation purposes only by the License Activation Key (LAK) that is shipped with it. If you have already purchased LISTSERV you will have received a production LAK separately--we will describe the installation of that key later in this document.

4. Gathering information you will need

You will need to gather some information before you start.

1. What is the DNS hostname for the machine on which LISTSERV is going to be installed? This is something like `LISTSERV.YOURDOMAIN.COM` . It must be a fully-qualified domain name (FQDN) and it must map to an A or MX record as noted above in the networking requirements. While it is possible to use a bracketed IP (eg, `[10.0.0.24]`) for testing purposes, as noted above the use of bracketed IPs in production is not supported and not recommended.

2. What SMTP server do you intend to use for LISTSERV's outgoing mail? Like the hostname for the LISTSERV machine, this must be an FQDN hostname listed in DNS. If you will be installing L-Soft's legacy LSMTP MTA on the same machine as LISTSERV then the answer to this question is identical to the answer for #1. Otherwise this must be the name of an external machine, ie, one running sendmail or some other SMTP implementation that can accept LISTSERV's outgoing mail for delivery. (If you will be installing LSMTP you will probably still want to identify an external SMTP machine to use temporarily to test LISTSERV prior to installing LSMTP, which is the recommended procedure.)

3. What are the email addresses for the LISTSERV maintainers (the person or persons who are authorized to create lists and operate/maintain the server)?

4. What drive and directory are you going to install LISTSERV into? (The installation script defaults to C:\LISTSERV; if you have more space on another drive, eg, a RAID array or other large disk, you will probably want to install LISTSERV on that drive rather than on C:.)

5. What program group or folder do you want LISTSERV's icons to be placed in?

Once you know these things you can proceed with the installation.

5. Starting the installation

First, place the distribution kit into a temporary directory (eg, C:\TEMP or C:\SCRATCH). DO NOT try to run the kit into the directory that you have identified in point 4 of section 4, above!

Next, make sure that you are logged in either as the Administrator user or as a member of the Administrators group. You cannot install LISTSERV unless you have administrative control of the computer.

The kit is a self-contained, self-extracting setup kit that includes all of the files you will need for the installation. Simply run LISTSERV.EXE from a DOS prompt or double-click on it in Windows Explorer to start the installation and follow the script.

6. Basic configuration

The installation script will ask whether or not you want to go ahead and configure the LISTSERV server. You MUST do a basic server configuration at install time or the installer will exit, but bear in mind that a more complex configuration can be done after finishing the installation, if necessary. For the basic configuration done at install time, you will need to have the information discussed below for NODE, SMTP_FORWARD, and POSTMASTER. (Note: This basic configuration step is skipped for upgrades, which are assumed to be already configured.)

Configuring the server after installation is done via the web administration interface. Log in as a LISTSERV administrator, and choose Server Administration/Site Configuration/Site Configuration to enter the web-based configurator.

It should be noted that the MAIN\SITE.CFG file is now used only for initial startup; changes made via the web configurator are written to a platform-independent file which is maintained by LISTSERV and which should not be hand-edited.

In addition, the old SITE.EXE configuration GUI is no longer supported or provided (because it operates on the MAIN\SITE.CFG file). If you have a copy from a previous installation, it should not be used, and L-Soft recommends that it simply be deleted along with SITE.HLP and SITEDATA.FILE.

6.1. NODE

The NODE setting is the fully-qualified domain name as registered in DNS for the machine LISTSERV is running on. As noted above, it is possible to insert a square-bracketed dotted-decimal IP address in this box for testing purposes, but L-Soft neither recommends nor supports this in production. This is the host name that LISTSERV will always identify itself with when it sends mail out (the information gathered in #1 of section 4, above).

6.2. MYDOMAIN

MYDOMAIN does not refer to your corporate domain. MYDOMAIN is the space-separated list of all possible host names your machine might be known as. In many cases the value of MYDOMAIN is the same as NODE, but for instance some machines running LISTSERV also run the enterprise's World Wide Web server, and may thus be identified in DNS as something like "WWW.MYCOMPANY.COM". If you're running L-Soft's legacy LSMTP MTA, you might also be using the POP3 feature in LSMTP to handle your corporate mail accounts, and might have a DNS record for "POP.MYCOMPANY.COM" pointing to the LISTSERV machine. And of course we'll assume that NODE has been set above to something like LISTSERV.MYCOMPANY.COM. Using this as an example you would set the MYDOMAIN setting to contain, in space-separated format, all of these names that mail might come in to LISTSERV under, with the NODE value coming first:

```
LISTSERV.MYCOMPANY.COM WWW.MYCOMPANY.COM POP.MYCOMPANY.COM
```

This way if someone accidentally writes to LISTSERV@POP.MYCOMPANY.COM, LISTSERV will recognize POP.MYCOMPANY.COM as equivalent to LISTSERV.MYCOMPANY.COM and will process the mail as if it had been addressed to LISTSERV@LISTSERV.MYCOMPANY.COM. Otherwise the mail will bounce as LISTSERV has no other way to know what other names the machine might be known by in DNS.

6.3. SMTP_FORWARD

This setting refers to the name of the machine which will be handling LISTSERV's outgoing mail. It must be a fully-qualified domain name of a machine registered in DNS. For instance if your corporate mail gateway is MAIL.MYCOMPANY.COM, you could set SMTP_FORWARD to that value. This is the information gathered in #2 of section 4, above.

If you install L-Soft's legacy LSMTP MTA after you test LISTSERV, this value can be changed to the same value you coded for NODE. Since we recommend testing the success of your LISTSERV installation before installing LSMTP, you probably don't want to do that at this point.

6.4. POSTMASTER

This is a space-separated list of userid@host.domain type email addresses belonging to people who have authority to manage LISTSERV--specifically the people who are allowed to create lists, but also who have pretty much global authority on the server to look at lists, modify list headers, and so forth. There are some advanced options for this setting but for right now you will probably just want to insert your own email address so that you can test the server. This is the information gathered in #3 of section 4, above.

Please note carefully that the POSTMASTER should NEVER be LISTSERV@ anywhere or POSTMASTER@ anywhere. These userids are reserved and mean specific things to LISTSERV. If you need to use a generic name for a postmaster account, it is recommended that you use something like "listmaster" or "lstmaint" instead.

6.5. CREATEPW

The password that will be used to create lists and perform certain management functions (such as administering LISTSERV's user password feature). Note that when using the web management features, you do not use the CREATEPW= value, but rather your own personal LISTSERV password, to validate your identity. See the main LISTSERV documentation for information on how to create a personal LISTSERV password.

Note: Starting with LISTSERV 14.3, CREATEPW and its companion STOREPW are obsolete, as postmasters can now authenticate all commands with their personal LISTSERV password. If you do not want to set CREATEPW at all, you should set it to the special value `*NOPW*`, which will disable the authentication system they are associated with.

6.6. MYORG (optional)

A string that identifies your organization in the From: line of administrative mail sent out by LISTSERV. This defaults to the NODE value you coded above, but you can change it to be more descriptive, eg, "University of XYZ" or "My Company, Inc." If you were to set it to "My Company, Inc.", the From: line of administrative mail would look like this:

```
From:          "My Company, Inc. LISTSERV Server (15.5)"
```

<div align="center"><LISTSERV@LISTSERV.MYCOMPANY.COM></div>

Only the part preceding "LISTSERV Server" may be modified by the MYORG setting. The rest of this string is hard-coded and cannot be changed.

7. Starting and testing the server installation

To start LISTSERV for debugging/testing purposes, you can simply double-click the "LISTSERV for Windows 2000/2003/XP (interactive)" icon created by the installation script. This starts LISTSERV in a DOS box so that you can see what it is doing. Similarly, you should start the SMTPL.EXE "listener" service by double-clicking on the "LISTSERV SMTP Listener (interactive)" icon (unless you are using L-Soft's legacy LSMTP MTA).

You can run only one copy of LISTSERV at any given time. That is, you cannot start LISTSERV interactively if it is already running as a service, or vice-versa, nor can you start LISTSERV in multiple CMD windows. The same applies to the SMTP listener.

Note that when LISTSERV is installed, it is registered in the Services Manager to start automatically as a system service at boot time. Thus if you have rebooted your machine after installing LISTSERV, it may already be running. If it is already running when you attempt to start it in a DOS box, you will get the following error:

```
C:\LISTSERV\MAIN>lsv start
>>> Unable to create SMTP synchronization events <<<

abnormal program termination
```

Similarly, if the SMTPL "listener" is already running as a service, you will get something like:

```
C:\LISTSERV\MAIN>smtpl start
>>> Error 5 creating synchronization event.
Statistics for this session:

 Physical memory: 2048M (1417M available)
 Paging file:     3939M (3409M free)
 Process memory:  6968k in use
 Connections:     0 (max 0, total 0 in this session)
 Messages:        0 (0 recipients)
 SMTPL uptime:    0 00:00:00 (50.3% CPU utilization)
```

If the services are running, simply stop them from the Control Panel/Services applet, or just issue the commands

```
NET STOP LISTSERV
NET STOP LISTSERV-SMTP
```

in your DOS box before proceeding.

If there are no problems, LISTSERV will start up with messages similar to the following:

```
C:\LISTSERV\MAIN>lsv start
21 Nov 2007 10:20:48 LISTSERV(R) for Windows version 15.5 starting...
21 Nov 2007 10:20:48  Copyright Eric Thomas 1986-2007
21 Nov 2007 10:20:48 Build date: 16 Nov 2007
21 Nov 2007 10:20:48
21 Nov 2007 10:20:48 SIGNUP files are being compressed...
21 Nov 2007 10:20:48 -> No entry removed.
21 Nov 2007 10:20:48 The network tables are outdated and must be rebuilt.
* Network tables generation process started - be patient...
```

```
* Step 1 complete - DBINDEX file generated.
*                   198 NJE nodes, 64 dummy nodes, total 262.
* Step 2 complete - NODESUM3 file generated (7840 bytes).
*                   10 countries, 3 networks, 59 ':internet.' tags,
*                   73 hostnames, total 2411 bytes of Internet<->NJE data.
* Step 3 complete - LINKDEF2 file generated (236 links).
* Step 4 complete - no list/AFD/FUI entry updated for changed node names.
* Step 5 complete - SIGNUP files have been compressed, no entry removed.
21 Nov 2007 10:20:48 The peers tables are being rebuilt...
21 Nov 2007 10:20:49 ->>> No entry for LISTSERV.EXAMPLE.COM in PEERS NAMES.
21 Nov 2007 10:20:49 ->>> Dummy entry generated pending official registration:
21 Nov 2007 10:20:49 ->>> LISTSERV@LISTSERV.EXAMPLE.COM - Backbone=NO, License n
umber=9999.
21 Nov 2007 10:20:49 -> There are 300 known servers.
21 Nov 2007 10:20:49 File PEERS.DBNAMES has been rebuilt.
21 Nov 2007 10:20:49 File PEERS.DBINDEX has been rebuilt.
21 Nov 2007 10:20:49 File PEERS.NAMESUM has been rebuilt.
21 Nov 2007 10:20:49 File PEERS.DISTSUM2 has been rebuilt.
* Peers tables rebuilt successfully.
21 Nov 2007 10:20:49 Nearest backbone host is LISTSERV@PLUM.EASE.LSOFT.COM
21 Nov 2007 10:20:49 Nearest NJE host is LISTSERV@CUNYVM
* Step 6 complete - link weights file successfully compiled.
*
* Network tables generation completed successfully.
21 Nov 2007 10:20:49 Nearest backbone host is LISTSERV@PLUM.EASE.LSOFT.COM
21 Nov 2007 10:20:49 Nearest NJE host is LISTSERV@CUNYVM
21 Nov 2007 10:20:49 License merged successfully:
> LISTSERV-WINNT-*
>         UNITS=4
>         EXP=31-DEC-2007
>         REL=15.5
>         OPT=EVAL
>         SERIAL=EVAL-NT
>         CKS=1-4013CB73-A9C0E67D
*****************************************************************************
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*****************************************************************************
*                                                                           *
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* 1-800-399-5449 from the US or Canada).                                      *
*                                                                           *
*****************************************************************************
21 Nov 2007 10:20:49 Sent information mail to LSTMAINT@EXAMPLE.COM
```

```
21 Nov 2007 10:20:49 Initialization complete.
21 Nov 2007 10:20:49 You can enter commands via the keyboard at any time.
```

SMTPL isn't as verbose. It will start up with only a few messages:

```
C:\LISTSERV\MAIN>smtpl start
21 Nov 2007 12:23:36 LISTSERV SMTP listener, version 1.0w
21 Nov 2007 12:23:36 Copyright Eric Thomas 1994-2007
21 Nov 2007 12:23:36 Now listening to 0.0.0.0, port 10025.
21 Nov 2007 12:23:36 Initialization complete - 200 concurrent threads.
```

To test the server, send Internet mail to the LISTSERV address with some random command, such as HELP, to check that the SMTP listener and outgoing mail interface are working correctly. Please note that the "LISTSERV address" is the address formed by "LISTSERV@" + the value you defined in the site configuration file for NODE=. For instance, if you defined NODE=LISTSERV.XYZ.COM, the LISTSERV address would be LISTSERV@LISTSERV.XYZ.COM.

DO NOT attempt to create lists or use the WWW interface until the basic email functions (ie, sending commands to LISTSERV by email and getting a response) are tested and working correctly.

If you have any problem, contact SUPPORT@LSOFT.COM . Note that LISTSERV will not see any mail you send it via MAPI unless you have a MAPI/SMTP gateway for your LAN. LISTSERV does not include a MAPI gateway and thus does not support MAPI.

When running as services, LISTSERV and SMTPL both create log files in the \LISTSERV\LOG directory but, for performance reasons, the file buffers are not flushed with each and every write. If you attempt to TYPE the log file, it may appear to be empty. If you wait a few minutes, the buffers will be flushed and you will be able to examine the files. LISTSERV generates "crash reports" when it terminates abnormally, which are sent to the LISTSERV postmasters by default. These "crash reports" normally include a traceback of the error along with the last 100 LISTSERV log entries prior to the crash, and should be sent to L-Soft support for problem resolution.

In interactive mode, the log files are also created but the file buffers are flushed continuously. Flushing the logs continuously ensures that, in the event of a severe program failure, the logs will always contain information about the cause of the failure.

(Due to the fact that writing to command windows can significantly slow down an application, interactive mode should be used only when you are trying to troubleshoot a problem.)

Note that, while critical errors are reported to the Windows 2000/2003/XP System Event Log and can be examined with Event Viewer (select the Application log), the Windows error codes are almost never useful for debugging problems with LISTSERV and the LISTSERV console log should be consulted in favor of the event log when a problem arises.

When running as services, both LISTSERV and SMTPL may be stopped from the Control Panel/Services applet, or by issuing the commands NET STOP LISTSERV and NET STOP LISTSERV-SMTP from a DOS prompt. Sites running LISTSERV on Intel architectures may also use the "Stop LISTSERV Service" and "Stop LISTSERV-SMTP Service" icons provided.

When running in interactive mode, to stop LISTSERV, simply type STOP. To stop SMTPL, wait until there is no more activity and type Ctrl-C.

7.1. Windows XP SP2 firewall considerations

It is recommended that sites running Windows XP with Service Pack 2 applied should open the firewall to the LISTSERV program. This is the preferred method as it makes it easy to change various TCP/IP-related aspects of LISTSERV's operation (eg, outbound mail port, TCPGUI port) without having to change the firewall.

For the SMTPL.EXE "listener" or the legacy LSMTP mailer, it is recommended to open the firewall on port 25 from all IP addresses. Alternately, simply open the firewall to the appropriate program. The only advantage to explicitly opening port 25 as opposed to opening the firewall to SMTPL.EXE or some other specific MTA program is that you can easily switch from SMTPL to another MTA or vice versa without having to worry about changing the firewall settings. Port 25 is also a "well-known" port so inbound mail is in almost every case going to come to port 25, regardless of which program is listening on that port for LISTSERV's mail.

8. Installing the License Activation Key (LAK)

If you are just evaluating the software, the LAK will be installed for you automatically. Note however that evaluation LAKs expire at the end of each half: June 30 and December 31. If you have an older kit that you've had around for a while then you may want to either download a newer kit (recommended) or you can download a new evaluation LAK from the LISTSERV evaluation kit download page.

The procedure to install a LISTSERV LAK (either a new evaluation LAK or a production LAK) is as follows:

1. Create a disk file with the license information supplied. If you received the license registration form electronically, simply delete the mail headers and other extraneous information (you do not need to remove the instructions found at the top of the LAK). If you received it via FAX or postal mail, you will have to retype the information. Please observe spacing carefully. To make the LAK easier to transcribe, we always insert multiple blanks where one is needed. Thus, unless you see a big white space on the FAX, you should not insert any blank. (Note that LAK information can also be entered via the SITE.EXE utility.)

2. Make a backup copy of the file you have just created.

3. Install a copy of the file under the name LICENSE.MERGE in the product's main directory. This would be MAIN\LICENSE.MERGE relative to your LISTSERV root directory (eg C:\LISTSERV\MAIN\LICENSE.MERGE) if you installed LISTSERV under C:\LISTSERV).

4. Start LISTSERV (or stop and restart it if it was already running). It will compile the new LAK, verify its integrity, and merge it into its license database. If no error was detected, it will then delete the LICENSE.MERGE file. This is why you must make a backup copy of the license file before activating it. The LAK will of course remain in the license database, but you may need the original in case of hardware failure.

5. Verify that LISTSERV is running with your new LAK by issuing the command SHOW LICENSE either by e-mail or at the LISTSERV command prompt (in interactive mode).

Note carefully the following:

- The LICENSE.MERGE file MUST be a flat ASCII text file (Unicode is not supported).

- If you create the LICENSE.MERGE file with NOTEPAD, please note that by default the NOTEPAD application will save your file with a .txt extension (e.g., if you type license.merge in the "Save as" dialog box, NOTEPAD will actually save license.merge.txt). If this happens you must rename the file to license.merge or

LISTSERV will not see it on startup. You can avoid this problem by enclosing the name of the file in double quotes, i.e., when you are prompted for the filename in the "Save as" dialog box, enter `"license.merge"` (you *must* use the double quote marks!) and press the OK/Save button. If you use the double quotes, your file *will* be saved as `license.merge` and not as `license.merge.txt` .

9. Advanced configuration

There are a number of advanced configuration parameters that can be set to modify LISTSERV's behaviour and/or tune it for better performance. The most common parameters are documented in Appendix C of the *Site Manager's Operations Manual for LISTSERV*, found on L-Soft's World Wide Web site along with the rest of the LISTSERV documentation (http://www.lsoft.com/manuals).

A tuning guide for high volume sites running with L-Soft's LSMTP product is available upon request; please contact L-Soft's support department at `support@lsoft.com` for a copy.

For information about LISTSERV's DBMS and mail-merge features, the Common-Jobs Language Interpreter (CJLI), and other extensibility features, please see the *Developer's Guide to LISTSERV*, also found on L-Soft's web site at the URL noted above.

10. Setting up the web interface

(If you will not be using the web interface then you can simply skip this section and proceed to section 11, below.)

10.1. Setting up the interface at install time

It is strongly recommended that you set up the basic web interface when you install the software. The installation kit will offer to do this for you; you need only provide the directory used for CGI programs and the directory and base URL used for LISTSERV's web files.

If you choose to set up the interface later, please see the next section.

10.2. Setting up the interface manually

If you choose to install the web interface manually, use the following instructions:

1. Copy the WA.EXE executable from LISTSERV's MAIN directory (typically C:\LISTSERV\MAIN) to the CGI script directory for your web server. You can call it something else, but a short name will help keep the HTML documents small!

2. Create a subdirectory (recommended name: "archives") under the top level (document root) of your web server to contain the various files LISTSERV will be creating. For instance, under IIS the usual top level directory is x:\inetpub\wwwroot (where "x:" is whatever drive you've installed IIS on). So for LISTSERV you would create the subdirectory x:\inetpub\wwwroot\archives for LISTSERV's web archive interface. You should not use the web server's root directory as LISTSERV will create quite a few files!

3. The interface will then access the files using the relative URL '/archives' .

4. Modify LISTSERV's configuration to add two variables, as follows:

- `WWW_ARCHIVE_CGI` is the relative URL that leads to the CGI script you have just installed. Typically this will be something like '/cgi-bin/wa.exe' or '/scripts/wa.exe'. This is a URL, not an OS path name.

- `WWW_ARCHIVE_DIR` is the full (NT) path name to the directory you created in step 3, e.g., `C:\INETPUB\WWWROOT\ARCHIVES` .

5. For each list that you want accessible through the web interface, you must create a subdirectory in the directory you created in step 3, named like the list. For instance, if `WWW_ARCHIVE_DIR` is `C:\INETPUB\WWWROOT\ARCHIVES` and you create the directory `'C:\INETPUB\WWWROOT\ARCHIVES\XYZ-L'`, the list XYZ-L will be accessible through the interface.

Finally, stop and restart LISTSERV (or simply start it if it was not running). It should create two files accessible with the URL http://localhost/archives/index.html and http://localhost/archives/default.htm, and from there you should be able to access all the LISTSERV web functions.

10.3. Setting system file permissions for WA.EXE under NTFS

If your %SystemRoot%\system32 directory is on a FAT or FAT32 partition this step can be skipped, since such partitions are always world-read. Because of that, however, installing on FAT or FAT32 partitions is discouraged for security reasons.

Whether you install the interface manually or from the SITE.EXE configuration GUI, if your %SystemRoot%\system32 directory (i.e., \WINNT\SYSTEM32) is on an NTFS partition, you must also ensure that the following files in the %SystemRoot%\system32 directory are granted world read (R/X) permissions:

```
MSAFD.DLL
WS2_32.DLL
WS2HELP.DLL
WSHTCPIP.DLL
WSOCK32.DLL
```

If these permissions are not set, when accessing the WA.EXE CGI script from the web you will get an error similar to this:

Error during command authentication

Error - unable to initiate communication with LISTSERV (errno=10106, phase=SOCKET, target=127.0.0.1:2306). The server is probably not started. Expires: Thu, 01 Dec 1994 00:00:00 GMT Cache-Control: no-cache, must-revalidate Pragma: no-cache Expires: Thu, 01 Dec 1994 00:00:00 GMT Cache-Control: no-cache, must-revalidate Pragma: no-cache

---

Complete information on installing the Web Archive Interface (including how to publish the content of "Send= Private" and/or "Confidential= Yes" lists) is contained in chapter 5 of the Site Manager's Operations Manual.

11. Creating, administering, and deleting lists

This topic is discussed in detail in the *Site Manager's Operations Manual for LISTSERV*, available from L-Soft's World Wide Web site (see section , below).

DO NOT attempt to create lists until the basic email functions (ie, sending commands to LISTSERV by email and getting a response) are tested and working correctly.

There are two ways to create a list using LISTSERV. The classic method is to do so by e-mail, using the methods outlined below. The other method is to use the web-based administration interface to create lists from templates. If you have not installed the web interface then you must create lists via e-mail.

In order to create lists, the e-mail address you intend to create the lists from must be listed in the POSTMASTER= site configuration variable. In other words, only users whose e-mail addresses are listed in the POSTMASTER= variable in LISTSERV's SITE.CFG file for your server will be able to create lists. Note carefully that LISTSERV does not "fuzzy-match" addresses for this purpose--if you have "POSTMASTER=joe@example.com", this does NOT confer POSTMASTER authority on "joe@unix.example.com" and so forth. Please also note carefully that LISTSERV's authentication and validation systems are not linked with OS-level privileges. Even a login as 'root' or 'administrator' does not confer any LISTSERV administrative privileges.

11.1. Creating lists via e-mail

In order to create a new list, you must:

1. Prepare a "list header", for instance using the sample provided below. You can also get the header of an existing (L-Soft) LISTSERV list and use it as a sample.

2. The first line of the list header MUST be as follows:

```
PUT LISTNAME.LIST PW=CCCCCCCC
```

Replace "LISTNAME" with the name of your list, e.g.,

```
PUT MYLIST-L.LIST PW=CCCCCCCC
```

Then replace "CCCCCCCC" after "PW=" with the "CREATEPW" you chose when configuring LISTSERV. If your CREATEPW is FIATLUX, then your complete PUT line for a list called MYLIST-L would be as follows:

```
PUT MYLIST-L.LIST PW=FIATLUX
```

Note that one of the most common errors made by new LISTSERV users is to leave out the ".LIST" part of the PUT command. If you leave this part out, LISTSERV will bounce the header back to you with the comment that it does not have any file by the name "MYLIST-L PW=FIATLUX".

3. Following the PUT line, you insert as many "list header" lines as you need (see the sample). Each of these lines MUST begin with an asterisk in column 1, e.g.,

```
* Notebook= Yes,C:\LISTSERV\LISTS\MYLIST-L,Monthly,Public
```

Each "list header" line contains information needed by LISTSERV to operate your list. Most of this information is provided by you in the form of values for standard keywords. You can use the sample header provided below as an example; a complete list of keywords recognized by LISTSERV along with descriptions of their functions can be found in Appendix B of both the *List Owner's Manual for LISTSERV* and the *Site Manager's Operations Manual for LISTSERV*.

4. Mail the resulting list header to the LISTSERV address. *Note carefully* that if your mail software indents paragraphs by default, you must turn off paragraph indentation, or an attempt to store the list will be returned to you with a message that there did not appear to be any list header lines.

The "LISTSERV address" is the address formed by "LISTSERV@" + the value you defined in the site configuration file for `NODE=`. For instance, if you defined `NODE=LISTSERV.XYZ.COM`, the LISTSERV address would be `LISTSERV@LISTSERV.XYZ.COM`.

This mail must be sent as Internet mail from a username defined as a "postmaster" in the LISTSERV configuration. On a PC, you would use your POP client or other GUI-based mail program. Make sure to cut+paste the file via the Clipboard and not send it as an "attachment" or use drag and drop. "Attachment" mechanisms are often proprietary or PC-specific and cannot be guaranteed to work. Sending plain text from the Clipboard always works. Note carefully that the PUT command line must be the first line of the body of the message.

From a unix system, you might save your list file (say, in a file called 'newlist.create'), and then do:

```
$ mail listserv@listserv.xyz.com < newlist.create
```

Or you could simply cut and paste the text of the header into the body of a Pine message. Again, attachments can't be used for this purpose; you must use plain text in the body of the message.

If you have questions about list creation, keywords, list management and other high-level or system-independent LISTSERV topics, the best place to ask them is the LSTOWN-L list, an open forum of LISTSERV list owners.

For assistance with problems specific to evaluation kits, join the LSTSRV-E list or contact Support@LSOFT.COM for a prompt reply. Please don't forget to tell us which hardware and software you are using--and please use a descriptive subject line!

```
----------------------------- Cut here -----------------------------
PUT SAMPLE.LIST PW=CCCCCCCC
*
* Title of sample list
*
* Review= Owner
* Subscription= Open,Confirm
* Send= Private
* Notify= Yes
* Reply-to= List,Respect
* Validate= No
* Notebook= Yes,C:\LISTSERV\LISTS\SAMPLE,Monthly,Public
*
* Owner= someone@example.COM
----------------------------- Cut here -----------------------------
```

11.2. Creating lists via the web interface

The web interface for creating lists is actually fairly simple--it's a fill-out form that presents you with various options with inline explanations for those options. To reach the interface, you invoke the 'wa.exe' CGI script without any parameters, eg,

```
http://your.server.com/your-script-directory/wa.exe
```

This presents you with the LISTSERV main page. From this page's drop-down menu bar, click "Server Administration", then "Mailing Lists", then "List Creation".

Note that all server management pages require a login from a POSTMASTER= address with the appropriate personal LISTSERV password associated with that address. (If you have set up a "cookie"-type login, then of course you will not be prompted for userid and password.) When using the web management features, including the "Create a new mailing list" page, you do not use the CREATEPW= value, but rather your own personal LISTSERV password, to validate your identity.

11.3. Deleting lists

Lists may be deleted from the web administration interface. Click "Server Administration", then "Mailing Lists", then "List Deletion".

Please be aware that once you delete a list, it is gone forever. LISTSERV does not back up deleted lists, nor does it have an "undelete" function.

12. Upgrading your LISTSERV installation

Because of non-backward-compatible changes made by LISTSERV 15.5 to the format of LISTSERV's SIGNUP files which allow UTF-8 characters to be used in passwords, and the addition of non-reversible subscriber password encryption, L-Soft **STRONGLY RECOMMENDS** that, prior to upgrading, a full backup be made of your LISTSERV installation.

<div style="border:1px solid">

IMPORTANT: LISTSERV 15.5 requires a version 15.5 LAK!

You must obtain and install a LISTSERV version 15.5 product LAK prior to upgrading your server, or LISTSERV will not start after the upgrade.

IMPORTANT: Install your LISTSERV 15.5 product LAK before upgrading! A valid product LAK (License Activation Key) with "REL=15.5" must be installed before upgrading or LISTSERV will not start after the upgrade.

If you have not received a LISTSERV 15.5 product LAK, please contact your sales representative or SALES@LSOFT.COM before upgrading!

If your product LAK has EXP=NEVER, you will also need to install an appropriate LISTSERV maintenance LAK.

To find out if you can upgrade to LISTSERV 15.5 with your current LAKs, please issue a SHOW LICENSE command to LISTSERV and examine the response. It will be similar to this:

```
License type:      Permanent
Expiration date:   None - perpetual license
Maintenance until: 26 May 2008, serial number MNT-XYZ-1
Capacity:          Unlimited
Version:           15.5
Serial number:     XYZ-1
Build date:        27 Nov 2007
```

Your license key will be valid for the 15.5 upgrade if your current product LAK is for version **15.5 or higher** and your maintenance is **not expired.**

</div>

Upgrading LISTSERV is almost as simple as installing it. Simply follow these steps:

1.	If you are upgrading from one full version of LISTSERV to another (for instance, from 15.0 to 15.5), you should have received a new LAK from your sales representative. If you do not have a LAK for the version you are upgrading to, stop right here and contact your L-Soft sales representative. If you are not sure what version you are currently licensed for, send a "SHOW LICENSE" command to LISTSERV.

2.	If you have received a new LAK, install it onto your old installation, following the instructions that come with the LAK (or see section 9, above). Send LISTSERV a "SHOW LICENSE" command after restarting LISTSERV to ensure that the new LAK has been installed properly. Do not proceed further until this step has been correctly completed.

3.	Back up the entire LISTSERV directory hierarchy (just in case).

4.	Stop LISTSERV and SMTPL (note that if you are running the legacy LSMTP MTA, you do not need to stop SMTPL as it should be disabled).

5.	Get the current Windows NT evaluation kit from the LISTSERV evaluation kit download page and install it over your existing installation, per the instructions in section 6 of this document. Your current configuration, lists, and other settings will be preserved. Note that evaluation kits are production code limited only by an evaluation LAK, which your production LAK will override.

6.	If you are running the legacy LSMTP MTA as your mailer, open the Windows Control Panel/Services applet and ensure that the "LISTSERV SMTP Listener" service is disabled. This is very important! Note that the current version of the installation GUI will not register SMTPL.EXE as a service if an installation of LSMTP is detected in the Windows registry, but it is still wise to check this.

7.	If you have the web archive interface installed, either re-run the web archive configuration feature of SITE.EXE or manually copy WA.EXE from the \LISTSERV\MAIN directory to your cgi-bin or scripts directory to update it. The setup program will not do it for you automatically.

8.	Restart LISTSERV and SMTPL (if not running legacy LSMTP) and send a command to make sure the installation was successful.

13. Online Documentation and Peer Support Mailing Lists

All of L-Soft's documentation, including Frequently-Asked-Questions documents, is available online at the URL http://www.lsoft.com/manuals/index.html .

There are several peer support mailing lists available for LISTSERV users world-wide to communicate among themselves with regard to the software. L-Soft support engineers monitor these lists and contribute when necessary. These lists include:

LSTSRV-L@PEACH.EASE.LSOFT.COM	for LISTSERV maintainers and interested list owners
LSTOWN-L@PEACH.EASE.LSOFT.COM	for LISTSERV list owners
LSMTP-L@PEACH.EASE.LSOFT.COM	for legacy LSMTP users
LISTSERV-LITE@PEACH.EASE.LSOFT.COM	for LISTSERV Lite users
LISTSERV-DEVELOPERS@PEACH.EASE.LSOFT.COM	for third-party developers using features

To subscribe to any of these lists, send mail to `LISTSERV@PEACH.EASE.LSOFT.COM` with the following command in the body of the message (and substituting the name of the list for *listname*):

SUBSCRIBE *listname* Your Name

14. Registering your LISTSERV Classic server

NOTE: This section does not apply to evaluation kits or to LISTSERV Lite or Shareware kits. Evaluation copies of LISTSERV should not be registered because they are (presumably) temporary servers running test lists, whose existence should not be broadcast. LISTSERV Lite and Shareware kits are automatically registered via a different process.

Once the server is ready for production use (that is, once you have purchased and installed a permanent License Activation Key, and once you have arranged for LISTSERV to be started automatically when the system boots), you should consider registering it with L-Soft. Registering the server is necessary to broadcast its existence to the other LISTSERV servers and to receive automatic, periodic updates of LISTSERV's networking tables. Once you have registered, your server will also be sent periodic updates about the public lists hosted by other LISTSERV sites, and, similarly, other LISTSERV sites will receive information about the public lists you are hosting. Registration also makes it possible to assign the most efficient DISTRIBUTE routing path for your server.

Please note the following requirements for registration:

L-Soft registers only sites that have unlimited (UNITS=0) licenses or sites licensed for DISTRIBUTE-only use, which are running version 1.8d or higher of LISTSERV Classic or LISTSERV Classic HPO. (Versions prior to 1.8d are not Y2K compliant and therefore sites seeking new LISTSERV registrations must be running the release version of 1.8d or later.)

In order to qualify for registration, a LISTSERV site must also:

- Be running in NETWORKED runmode. If you have RUNMODE=STANDALONE or RUNMODE=TABLELESS in SITE.CFG, you must remove the RUNMODE line (or change it to RUNMODE=NETWORKED) and stop and restart the server before registering.
- Be readily accessible via the Internet by e-mail from outside users.
- Have a name that is unlikely to change any time soon. For instance, LISTSERV.EXAMPLE.ORG, LISTS.EXAMPLE.EDU, and LSV.EXAMPLE.COM are completely acceptable (although we strongly suggest using "LISTSERV" rather than "LISTS" or "LSV", simply because that is what most users are familiar with), whereas something like A8B703A.CC.EXAMPLE.EDU is not. If you are running a test server that you plan to rename later when it goes into production, do not register the server until it is running under its final name. Note also that a hostname containing "LISTSERVE"or any other misspelling of "LISTSERV" is not acceptable.
- Have an A or MX record in DNS corresponding to the value you place in the NODE section (an A record is recommended at minimum).

L-Soft does not register sites running evaluation kits, LISTSERV Lite, or LISTSERV shareware. Requests to register such sites will be discarded.

L-Soft cannot register intranet sites since by definition such sites are not accessible via the Internet. Registration requires that your LISTSERV site be readily accessible via e-mail by outside users.

If your LISTSERV Classic site does not meet the above criteria, there are other options for keeping your LISTSERV networking tables current (which is the most important reason for registering the software). See http://www.lsoft.com/table-updates.html for more information.

You may submit an online registration form at http://www.lsoft.com/regform.html . If there are special considerations for your site that are not covered by the standard form, or if you are unable to access the web site, you can contact registrar@lsoft.com to obtain a registration form. When contacting the site registrar, please tell us what operating system LISTSERV is running under so that we can send you the proper form.

15. Installing F-Secure® Anti-Virus (FSAV) Protection

Please note that this feature is not available under LISTSERV Lite.

Please note that the anti-virus scanning software is available only for Windows Server 2000/2003 and Linux, and that this feature is only available for LISTSERV Classic or LISTSERV Classic HPO sites running those operating systems. An L-Soft maintenance contract is also required.

If you are running LISTSERV under a workstation version of Windows (Windows 2000 Professional or Windows XP), please contact your sales representative for more information.

LISTSERV supports on-the-fly anti-virus scanning of all messages sent to mailing lists that run under LISTSERV Classic or LISTSERV Classic HPO on Windows 2000/2003/XP and Linux (x86) servers, including inline uuencoded binaries and MIME attachments in those messages. This is a value-added feature which, in addition to a regularly-licensed LISTSERV Classic or LISTSERV Classic-HPO installation, requires the following:

1. For sites with perpetual ("EXP=NEVER") LAKs: An additional "maintenance" LAK, meaning that you must purchase maintenance (which includes automatic anti-virus signature updates for the term of the LAK) for LISTSERV in order to use the feature. This LAK will come from your sales representative automatically when a perpetual LISTSERV LAK is purchased with maintenance and must be renewed yearly.
2. For all sites: A separate F-Secure Anti-Virus key that should be sent to you by your sales representative along with your LISTSERV LAK.

The table below indicates the web sites for F-Secure downloads.

Windows 2000/2003/XP
NOTICE: Use of FSAV 7.00 requires, at minimum, LISTSERV version 15.0. Use of FSAV 5.52 requires, at minimum, LISTSERV version 14.3. **Issue a SHOW VERSION command to LISTSERV to ascertain your product level BEFORE upgrading or installing FSAV. The current LISTSERV for Windows kit can be downloaded at http://www.lsoft.com/download/listserv.asp#windows .** **Installation kits:** *In the United States:* FSAV 5.52 for Windows Servers ftp://ftp.lsoft.com/F-Secure/fsavsrv552-12250-full.exe (see below for hotfixes)

In order to use LISTSERV®'s Anti-Virus features, F-Secure® Anti-Virus must be installed on the same server as LISTSERV. If you already have F-Secure Anti-Virus installed on the server, you should make sure that you are running the version supported by LISTSERV:

- For Windows 2000 Server/2003 Server: version 7.00
- For Windows XP/2000 Professional: version 7.00. NOTE: If you are running LISTSERV under either of these operating systems, please see below.

L-Soft strongly recommends that all Windows LISTSERV sites upgrade to at least version 5.52 (server) or 5.44 (workstation) with all hotfixes for those versions released through May 30, 2007 (see http://support.f-secure.com/enu/corporate/downloads/hotfixes/av5-hotfixes.shtml for the applicable hotfixes).

- Windows sites running LISTSERV 15.0 or higher may at their option upgrade to or install F-Secure Anti-Virus 7.00.

- And Windows sites installing LISTSERV 15.0 or higher for the first time (that is, not upgrading from a previous version) may prefer to start with F-Secure Anti-Virus 7.00.

The FSAV for Windows Servers or FSAV for Linux Servers license key provided by L-Soft is for a single stand-alone server only. If you wish to run the Enterprise edition of F-Secure Anti-Virus, this can be purchased separately, and it will still work with LISTSERV.

Additionally, the FSAV for Windows Servers key provided by L-Soft is for the server version of F-Secure Anti-Virus. The server version will not install on a workstation version of Windows (that is, Windows XP or Windows 2000 Professional). If you are affected by this, please contact your sales representative for an FSAV for Windows Workstations key.

The FSAV key provided by L-Soft is valid only as long as your paid maintenance contract for LISTSERV is up-to-date. If you discontinue LISTSERV maintenance, you must uninstall F-Secure Anti-Virus or purchase a separate key from F-Secure.

If you wish to evaluate the F-Secure software, you can obtain a 30-day evaluation key for FSAV from an L-Soft sales representative. Please note that only one 30-day evaluation key can be provided (this is a limitation imposed by F-Secure, not by L-Soft).

F-Secure Anti-Virus Installation Instructions

Following is a quick summary of installation, if you are installing F-Secure from the stand-alone kit provided. If you need further clarification, please consult the manuals cited in the table above.

1. Download the appropriate installation kit for your platform (see table above).
2. Run the installation program that you downloaded.
3. When prompted for a key, enter the F-Secure key that you received from your L-Soft sales representative. If you did not receive an F-Secure Anti-Virus key along with your LISTSERV LAK, please contact your L-Soft sales representative.
4. When prompted for the Administration Method, choose "Stand-alone Installation".
5. When prompted to "Choose Products to Install", select the *F-Secure Management Agent* component in addition to the *F-Secure Anti-Virus* component.

Performance Considerations

F-Secure Anti-Virus running on Windows provides an option for "real-time protection". This means that F-Secure will automatically check any file matching the criteria configured. The "real-time protection" settings that are set by default should work for most installations. The "out-of-the-box" settings enable protection for all file extensions that are known to be susceptible to viruses, on all directories on the server. As long as your LISTSERV maintenance is up-to-date, you are entitled to protect the entire server on which LISTSERV resides, not just LISTSERV itself, using the FSAV key provided by L-Soft. Therefore, there is no need to change the settings.

If you do decide to change the real-time protection settings, please keep the following in mind:

- Requesting scanning for "All Files" may result in a noticeable drop in performance.

  If you have real-time scanning enabled for "All Files", without specifying exceptions, then every file written on the server will be checked for viruses. This has the potential to slow down the server in a situation where many files are written continuously. In particular, an active LISTSERV site tends to create many files containing incoming LISTSERV "jobs" and outgoing mail. To avoid performance problems, avoid enabling automatic scanning of all files on the server.

- *At a minimum*, you should keep real-time scanning on for the EXE extension on the LISTSERV directory tree.
  To do this, follow these steps:

  1. Double-click on the F-Secure logo in the Windows Taskbar to bring up the F-Secure Settings and Statistics applet.
  2. Select F-Secure Anti-Virus and press the "Properties…" button.
  3. Go to the "Real-time protection" tab.
  4. Make sure "Enable protection" is checked, and select an action to take on infected files (preferably other than "Report only").
  5. Under "Scanning Options" select "Files with these extensions" and enter "EXE" in the data entry box.
  6. Press the "OK" button to save the settings.

- Some performance benefits may be found by excluding "immune" folders from the real-time scanning.

  You may want to exclude certain folders that will never contain any files that are prone to infection, for example folders that only contain text files. To exclude folders: in the "Real-time protection" applet, under "Scanning options" check the box for "Exclude

objects (files, folders)", then press the "Select…" button. Next, select those folders that do not need to be scanned. LISTSERV's archive directories, for example, should never contain infected files unless there are people or processes external to LISTSERV that use those directories for other purposes.

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ListPlex is a registered service mark of L-Soft international, Inc.
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